

CLAIMS:

1. A single-band type metallic belt wound between annular V-grooves of a drive pulley and a driven pulley, the
5 metallic belt including a metal endless band having at least one layer, and a plurality of metal push blocks engaged and superimposed on the band in a manner enabling sliding in a longitudinal direction of the band, the metallic band being characterized by:

10 the push block including a body formed by bending a single wire material and subsequently performing pressing so as to have two outer side surfaces defining side contact surfaces that are inclined to respectively make frictional contact with two inner surfaces of the annular V-grooves, a
15 pair of pillars respectively extending along extensions of the two contact surfaces of the body and having an outer surface that is continuous with the side contact surfaces of the body, and a pair of opposed hooks extending inwardly from distal ends of the pillars;

20 wherein an opening is defined by the pair of hooks, and a band holding surface is formed with a cross-sectional shape of a plurality of arcs arranged in parallel on the body in the opening, with the band inserted in the opening of each push block and held on the band holding surface;

25 a metal retainer arranged on an outer surface of the band in a manner engageable with the pair of hooks to ensure engagement between the band and the push blocks; and

a ring attached to the outer surface of the retainer to prevent deformation of the retainer, the width of the
30 ring being set to be narrower than the width of the retainer.

2. The metallic belt according to claim 1,

characterized in that the inner circumferential length of the ring is set to be 0.5 to 1.0 mm longer than the outer circumferential length of the retainer.

5 3. The metallic belt according to claims 1 or 2, characterized in that the width W2 of the ring and the width W of the opening of the push block have a relationship satisfying $W2 \leq W$.

10 4. The metallic belt according to any one of claims 1 through 3, characterized in that the ring has a plate thickness of 0.15 to 0.25 mm.

15 5. The metallic belt according to any one of claims 1 through 4, characterized in that sets of projections and concavities for forcing and ensuring alignment of the push blocks that are adjacent are formed at a total of three locations, two on the hooks and one on the body, with each concavity having a shape similar to the corresponding
20 projection.

 6. The metallic belt according to any one of claims 1 through 5, characterized in that the side contact surface of the body and the side contact surface of the pillar
25 continuous with the body side contact surface are inclined relative to travel direction of the push block, and a corner located at a front side of the body with respect to the travel direction is formed with an obtuse angle.

30 7. The metallic belt according to any one of claims 1 through 5, characterized in that the side contact surface of the body and the side contact surface of the pillar continuous with the body side contact surface include a step

(β) for forming a gap with the inner side surfaces of the annular V-grooves of the pulleys on the front side of the push block with respect to the travel direction.

5 8. The metallic belt according to any one of claims
1 through 7, characterized in that the side contact surface
of the body and the side contact surface of the pillar
include a plurality of grooves extending parallel to the
travel direction of the push block, and the width of the
10 grooves at the front side with respect to the travel
direction is wider than the width at the rear side of the
grooves in the travel direction.

 9. (Twice Amended) Push blocks for use with a
15 metallic belt wound between annular V-grooves of a drive
pulley and a driven pulley, the push blocks being
superimposed with one another along the longitudinal
direction of the metallic belt, the metallic belt push block
being characterized by:

20 the push block formed by bending a single wire
material and then performing pressing, and the push block
includes a contact surface for making frictional contact
with inner side surfaces of the annular V-grooves of both
pulleys, the contact surface including an oil breaking
25 portion for breaking up an oil film formed on the inner side
surfaces of the pulleys, wherein the oil breaking portion is
formed by a ridge line defined by a rear surface of the push
block and the contact surface.

30 10. The metallic belt push block according to claim
9, characterized in that the push block has a front surface
located on the front side with respect to travel direction
and a rear surface located on the rear side, wherein the

angle formed by the contact surface and the front surface of the push block is an obtuse angle.

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13. (Amended) Push blocks for use with a metallic belt wound between annular V-grooves of a drive pulley and a driven pulley, the push blocks being superimposed with one another along the longitudinal direction of the metallic belt, the metallic belt push block comprising:

the push block formed by bending a single wire material and then performing pressing, and the push block including a side contact surface opposing inner side surfaces of the annular V-grooves of both pulleys; and a front half of the contact surface forms an obtuse angle with a front surface of the push block, and a rear half of the contact surface forms an obtuse angle with a rear surface of the push block, wherein a ridge line functioning as an oil film breaking portion for breaking an oil film, which forms on the inner side surfaces of the annular V-grooves of the pulleys, extends along the entire length of the contact surface at a middle part of the contact surface in the widthwise direction.

14. (Amended) Push blocks for use with a metallic belt wound between annular V-grooves of a drive pulley and a driven pulley, the push blocks being superimposed with one another along the longitudinal direction of the metallic belt, the metallic belt push block comprising:

the push block formed by bending a single wire material and then performing pressing, and the push block

including a side contact surface opposing inner side surfaces of the annular V-grooves of both pulleys; and

a step extends along the entire length of the contact surface on a front portion of the contact surface, wherein
5 the step defines a ridge line functioning as an oil film breaking portion for breaking an oil film, which forms on the inner side surfaces of the annular V-grooves of the pulleys.

10 15. (Amended) Push blocks for use with a metallic belt wound between annular V-grooves of a drive pulley and a driven pulley, the push blocks being superimposed with one another along the longitudinal direction of the metallic belt, the metallic belt push block comprising:

15 the push block formed by bending a single wire material and then performing pressing, and the push block including a side contact surface opposing inner side surfaces of the annular V-grooves of both pulleys; and

a front portion of the contact surface forming an
20 obtuse angle with a front surface of the push block, and a groove extending along the entire length of the contact surface at the middle of the contact surface, wherein an inner wall of the groove and the contact surface defines the ridge line that functions as the oil film breaking portion,
25 which forms on the inner side surfaces of the annular V-grooves of the pulleys.

16. The metallic belt push block according to claim
15, characterized in that the groove has a rectangular
30 cross-section.

17. The metallic belt push block according to claim
15, characterized in that the groove has a triangular cross-

section.

18. The push block according to any one of claims 9 through 17, characterized in that the side contact surface of the body of the push block in frictional contact with the inner side surfaces of the annular V-grooves of both of the pulleys and the side contact surface of the pillar continuous with the body side contact surface includes a plurality of grooves extending parallel to the travel direction of the push block, with the width of the groove at the front side in the travel direction being wider than the width at the rear side in the travel direction.

19. (Twice Amended) A metallic belt comprising a metal band and the push block according to any one of claims 9 through 18.

20. A metallic belt including an endless metal band and a plurality of push blocks engaged with the metal band in a relatively movable manner and wound between a drive pulley and a driven pulley so as to enable continuously variable transmission of rotation speed of the driven pulley, the metallic belt comprising:

a plurality of thin plate-shaped rings having cross-sections of a plurality of continuous arcs, the rings being superimposed to form the metal band;

an endless non-processed retainer, arranged on an outer surface of the metal band, for engaging the metal band and the push block; and

an endless non-processed ring, arranged on an outer surface of the retainer, for preventing deformation caused by vibration in the superimposing direction of the metal band, the width of the ring being set to be narrower than

the width of the retainer;

wherein the retainer and the ring have an arcuate cross-sectional shape similar to the cross-sectional shape of the metal band; and

5 wherein the push block includes a body having two outer side surfaces defining side contact surfaces that are inclined to respectively make frictional contact with the pulleys, pillars respectively extending along extensions of the two contact surfaces of the body, a pair of opposed
10 hooks formed on distal ends of the pillars, an opening for insertion of the metal band, and a band holding surface defined on an upper surface of the body and shaped to have a cross-sectional shape that is substantially similar to the cross-sectional shape of the band.

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20 23. A metallic belt push block according to claim 20, wherein the push block is made of a metal wire material.

24. The metallic belt push block according to claim 20, wherein the push block is made of a steel plate.

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26. The metallic belt according to claim 20, wherein the retainer and ring have the same cross-sectional shape
30 and the same function.